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COLOR VARIATION IN GENTIANA LINEARIS

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ONE of the conspicuous plants of the Wilmington-West Dover-Stratton region of Windham Co., Vermont is *Gentiana linearis* Froel., abundant along wet road-sides, sour fields and bogs, and even in open woods. In its usual habitat, this species occurs very rarely with blue to lavender corolla-lobes separated by white plaits or with pure white corollas. Just how rare the white form is may be inferred from the fact that there are only two sheets all told in the Gray Herbarium and the Herbarium of the New England Botanical Club. Several botanists with wide field experience state that they seldom if ever have collected it. In an article entitled "Some Forms of American Gentians" Fernald published it¹ as forma *Blanchardii* based on the single specimen in the Gray Herbarium collected from "an open road-side" at Woodford, Vermont by *W. H. Blanchard*, August 15, 1902.

The rarity of *G. linearis* forma *Blanchardii* seems to indicate that it is merely an albino form. Some question as to the correctness of this view is raised by the prevalence of the white form in a sphagnum bog near the Jacksonville-Wilmington line at an altitude of 1600 ft. Growing profusely in wet moss with typical bog associations such as *Kalmia polifolia* and *Vaccinium Oxycoccus*, plants bearing pure white corollas, tipped with green, are overwhelmingly predominant. Occasional plants of the typical blue form grow side by side with the white under identical soil and light conditions. No gradations of color have been noticed. This station has been under the writer's observation for two years. Another station, which he has not visited

¹RHODORA, XIX, 152, 1917.

but from which many fresh specimens were collected, lies some twelve miles to the northward in West Dover at an altitude of 2300 ft. Here also, according to report, the white form occurs commonly, and the blue rarely, in sphagnum.

A careful examination of a series of fresh and dried material reveals no distinctive characters, other than color of corolla. Each dried specimen of the white form in my possession is distinguishable at once from the blue form by the conspicuous green tips of the corolla lobes. A random series of blue and white specimens, duly separated by sheets and marked for identification, were dried in a press between ventilators, with insufficient external heat. Some of the corollas of each color form, but none of the leaves, turned brown in drying. In no case did the dried corollas of the blue form, whether blue or brown, show green tips. In every instance the tips of the corolla lobes of the white form retained their green color. Unfortunately, this character proves to be "no good." An examination of all pertinent material in the Gray and Club herbaria discloses an occasional sheet of typical *G. linearis* with green-tipped corolla lobes, as for instance a beautifully preserved specimen from Shirley, Mass., August 28, 1916, *J. R. Churchill*. Furthermore, the type specimen of forma *Blanchardii* shows the merest trace of green on one corolla. On the other hand, the only other collection of the white-flowered form (Stratton Plateau, Vt., August 6-10, 1900, *W. W. Eggleston*, no. 2057) to be found in either herbarium shows mostly green-tipped corollas, otherwise browned with age. However, this latter is indistinguishable from occasional sheets of typical blue *G. linearis* likewise discolored.

If subsequent experiment shows that seedlings of white gentians from this bog produce white flowers under cultivation and that no reversion to blue occurs when white-flowered plants are transplanted from sphagnum to normally acid soil, it would appear desirable either to treat forma *Blanchardii* as a true albino and base a second color form on this new material, or else give forma *Blanchardii* more serious consideration than is usually accorded to mere albinism.

CAMBRIDGE, MASSACHUSETTS.

A GLABROUS VARIETY OF ASTER CONCOLOR.—*Aster concolor* L. is ordinarily one of the most distinct and easily recognizable of the North American species of *Aster*, with its virgate stems thickly clothed with small, entire, oblong to elliptic or linear leaves, gradually